

Abstract

A pure vacuum swing adsorption/desorption system and method, ~~unique apparatus means~~ wherein supplied air feedstock gas ~~mixture of molecular gases can be~~ is consistently separated to obtain ~~with~~ a high-purity oxygen end-product gas mixture ~~obtained with a minimum system consumption of electrical power~~, is described. ~~In the particular case of air separation, the described system and unique apparatus means herein provides a method by which a~~ The system and method separate high-purity oxygen product ~~can be separated from air within~~ by sequenced adsorption and desorption operations occurring exclusively under vacuum pressure conditions. This allows for ~~to obtain~~ greatly reduced kilowatt-hours of electric power consumption per ~~hourly or daily oxygen ton production rates produced~~.

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A pure vacuum swing adsorption/desorption system and method, wherein supplied air feedstock gas is consistently separated to obtain a high-purity oxygen end-product gas mixture, is described. The system and method separate high-purity oxygen product from air by sequenced adsorption and desorption operations occurring exclusively under vacuum pressure conditions. This allows for greatly reduced kilowatt-hours of electric power consumption per oxygen ton produced.